GOVERNMENT OF ANDHRA PRADESH
ABSTRACT

Municipal Administration & Urban Development Department – The Andhra Pradesh Transit Oriented Development Policy, 2022 - Orders – Issued.

MUNICIPAL ADMINISTRATION AND URBAN DEVELOPMENT (M) DEPARTMENT

G.O.Ms.No.72 **Dated:07.06.2022**

Read:

From the DTCP, Lr.RoC.No.17/52/2022-Plg, Dt.19.05.2022

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ORDER:

The Government of Andhra Pradesh intends to promote smart growth in the urban areas to deal with the problems related to urban development and transport faced by cities by way of developing these cities on Transit Oriented Development principles. The Transit-Oriented Development (TOD) concept is a growth strategy to assist the cities in implementing the guiding principles of the land use element. In the TOD strategy, new moderate and high density housing as well as new public uses and a majority of neighborhood-serving retail and commercial uses will be concentrated in mixed-use developments located at strategic points along the transit system.

2. The linkage between land use and transit results in an efficient pattern of development that supports a transit system and makes significant progress in reducing traffic congestion and urban sprawl. TOD policies may perform crucial role in improving the work to home relation as well as improving the efficiency and sustainability of public transport.

3. Andhra Pradesh has been pioneer in operation of public transport system through private bus operators, where Government owned special purpose vehicle plays as facilitator in Public Transport operations. To further capitalize on Public Transport initiative, TOD policies are needed to be implemented to increase ridership of the Public Transport system and making it a feasible mode of transport.

4. The Government of India have formulated National Transit Oriented Development (TOD) Policy and has desired states to formulate TOD Policies and ensure Transit Oriented Development. A State level TOD Policy is required as cities of Andhra Pradesh are losing its grace and beauty under the growing pressure of urbanization and increasing traffic and transportation related problems. Thus there is an urgent need to address the issue of urban transport by way of:

- Effecting shift to new urban planning and development philosophy of land use and transport integration.

(P.T.O)

- Making cities livable by improving access of citizens to the enhanced public transport facilities.
- Financing extension of urban infrastructure and public transport projects through land development.

5. Thus Transit Oriented Development Policy will be a guiding tool for Unified Metropolitan Transport Authorities (UMTA), Mass transit agencies, urban local bodies, government parastatal agencies, enforcement agencies and public for promoting Transit Oriented Development. The policy also guides and includes delineation of Transit corridors, mixed land use, influence zones, ensure connectivity and manage vehicular traffic and parking, ensure Transit supportive uses, Create Pedestrian and NMV-oriented design, controlling urban sprawl etc. by encouraging concentrated in mixed-use developments located at strategic points along the transit system.

6. Therefore, the Government have formulated the Andhra Pradesh Transit Oriented Development Policy, 2022 which applies to whole of Urban areas in Andhra Pradesh as a guiding tool for preparation/revision of development plans (DPs) under Municipal Corporations, Municipalities, Nagar Panchayats, Gram Panchayats covered in Urban Development Authorities, formulation of development control norms and regulations and regulating urban development in Andhra Pradesh.

7. The appended notification shall be published in an extraordinary issue of Andhra Pradesh Gazette.

[BY ORDER AND IN THE NAME OF THE GOVERNOR OF ANDHRA PRADESH]

Y. SRILAKSHMI
SPECIAL CHIEF SECRETARY TO GOVERNMENT

To

The Commissioner, Printing, Stationery & Stores Purchase Department, Vijayawada for Publication of the Notification in the Gazette and furnish 10 copies.

The Commissioner & Director of Municipal Administration, A.P., Guntur.

The Director of Town and Country Planning, A.P., Guntur.

The Director General, Andhra Pradesh State Disaster Response & Fire Services Department, A.P.

All Municipal Commissioners in the State through the Commissioner& Director of Municipal Administration, A.P.

The Commissioner, Andhra Pradesh Capital Region Development Authority, Vijayawada.

The Metropolitan Commissioner, Visakhapatnam Metropolitan Region Development Authority, Visakhapatnam

All Vice Chairpersons of Urban Development Authorities in the State.

(Contd..3)

The Chairman & Managing Director, APTRANSCO, Vijayawada.
The Commissioner & Inspector General of Registration & Stamps, Govt. of A.P.
The Managing Director, AP Metro Rail Corporation Limited, Vijayawada
The VC&HC, AP Housing Board, Vijayawada
All other concerned officials

Copy to:

The OSD/PS to Special Chief Secretary /Additional/Principal Secretary to Hon'ble Chief Minister
The OSD to Hon'ble Minister for MA&UD Department
All Departments in AP Secretariat
SF/SC.

//FORWARDED :: BY ORDER//

SECTION OFFICER

APPENDIX
NOTIFICATION

In exercise of the powers conferred by Section 116 of Andhra Pradesh Metropolitan Region and Urban Development Authorities Act, 2016 and Section 18 of A.P. Capital Region Development Authority Act, 2014, the Government of Andhra Pradesh hereby issue the Andhra Pradesh Transit Oriented Development Policy, 2022 annexed to this order.

Contd.... 4.

ANNEXURE to G.O.Ms.No.72, MA & UD (M) Dept., Dt.07.06.2022

Transit Oriented Development Policy

(2022)

ANDHRA PRADESH

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1 Background

Urbanization has led to horizontal growth of the cities thus creating problems of urban sprawl. This has resulted in increase of trip lengths and higher usage of private vehicles, problems of pollution and increased demand of infrastructure. To address these issues, many cities have strengthened their public transport by developing mass rapid transit systems (MRTS) such as metro rails and Bus Rapid Transit Systems (BRTS). It is however, important to efficiently use these systems by integrating the land use with the transport infrastructure to make the cities livable, healthy and smart.

Andhra Pradesh has a population of 49.39 Million (2011 Census) and is spread on 162,975 sq km area. Andhra Pradesh is rapidly urbanizing with a growth rate of 7% in the last decade, accounting for nearly 30% of the state population in 2011. A strong correlation exists between urban population and economic growth, higher the urban population, greater is the economic growth due to agglomeration of resources, both physical and human. This calls for greater emphasis on improving living conditions and factors aiding economic growth in urban areas.

Urban development in AP encompasses the provision of employment opportunities, affordable housing, reliable and convenient services, clean and green environment, as well as building accountable and financially strong Urban Local Bodies (ULBs). The goals of urban development in AP is to achieve a better quality of life and social inclusion for all urban residents, a higher rate of urbanization driven by industrialization and improvement of productivity, and sustainable urban growth. Andhra Pradesh has registered 29.6% of urbanization level in 2011 and has 123 urban local bodies. Out of which 2 cities (namely Visakhapatnam and Vijayawada) have million plus population and 34 other cities have population more than 1 Lakh.

Cities in Andhra Pradesh are witnessing rapid growth not only in terms of population but also in their spread leading to low density urban sprawls. The urban sprawl is leading to stress on limited urban infrastructure and urban local bodies are often trying to catch up with providing extended urban services to the ever expanding urban sprawl. This has also drained their financial capacity in providing access to urban services to the highly populated, sparsely distributed and largely spread cities.

Further with increase in urban spread the travel lengths and time are also increasing which is leading to use of un-sustainable means of transport. This together with the increased number of trips have made sustainable modes of transport such as public transport unviable and often falling short to meet the huge travel demands.

Government of Andhra Pradesh intends to promote smart growth in the urban areas to deal with the problems related to urban development and transport faced by cities by way of developing these cities on Transit Oriented Development principles.

The Transit-Oriented Development (TOD) concept is a growth strategy to assist the cities in implementing the guiding principles of the land use element. In the TOD strategy, new

moderate and high density housing as well as new public uses and a majority of neighbourhood-serving retail and commercial uses will be concentrated in mixed-use developments located at strategic points along the transit system.

2 Need of the Policy

Land use planning creates livable environment for balancing the human needs such as housing, working, social interaction, leisure and mobility of persons and goods. Land use planning is important for balancing of competing demands (of human needs) on limited urban space. While transportation is one of the human needs for mobility of persons and goods, often mobility has been considered to be limited to movement and also seen in isolation from other human needs. Mobility is not just movement but other dimensions attached to the mobility are flexibility and accessibility. Flexibility in the mobility is attributed to the lesser travel distances and accessibility in the mobility is attributed to the access to various human needs (Land uses).

The linkage between land use and transit results in an efficient pattern of development that supports a transit system and makes significant progress in reducing traffic congestion and urban sprawl. TOD policies may perform crucial role in improving the work to home relation as well as improving the efficiency and sustainability of public transport.

Andhra Pradesh has been pioneer in operation of public transport system through private bus operators, where Govt. owned special purpose vehicle plays as facilitator in Public Transport operations. To further capitalize on Public Transport initiative, TOD policies are needed to be implemented to increase ridership of the Public Transport system and making it a feasible mode of transport. Govt. of India has formulated National Transit Oriented Development (TOD) Policy and has desired states to formulate TOD Policies and ensure Transit Oriented Development. A State level TOD Policy is required as cities of Andhra Pradesh are losing its grace and beauty under the growing pressure of urbanization and increasing traffic and transportation related problems. Thus there is an urgent need to address the issue of urban transport by way of

- Effecting shift to new urban planning and development philosophy of land use and transport integration.
- Making cities livable by improving access of citizens to the enhanced public transport facilities.
- Financing extension of urban infrastructure and public transport projects through land development.

Thus Transit Oriented Development Policy will be a guiding tool for Unified Metropolitan Transport Authorities (UMTA), Mass transit agencies, urban local bodies, government parastatal agencies, enforcement agencies and public for promoting Transit Oriented Development.

3 Purpose & Application/Applicability of the Policy

This Policy applies to whole of urban areas in Andhra Pradesh as a guiding tool for preparation/revision of development plans (DPs) under Municipal Corporations, Municipalities, Nagar Panchayats, Gram Panchayats covered in Urban Development Authorities, formulation of development control norms and regulations and regulating urban development in Andhra Pradesh. This Policy shall be specifically meant for promotion and control of development around Transit Stations and along Transit Corridors in all the cities in Andhra Pradesh.

The TOD Policy will assist

- Government Departments, Directorate of Town & Country Planning, Commissioner and Director Municipal Administration for making relevant amendments in Acts, Rules & Regulations for urban development in Andhra Pradesh.
- Directorate of Town & Country Planning, Municipal Corporations/Municipalities /Municipal Councils in preparation and revision of DPs, Zonal Plans and TOD Area Zonal Plans for urban development in Andhra Pradesh.
- Directorate of Town & Country Planning, Municipal Corporations/Municipalities /Municipal Councils in issuing planning/development permissions and building permission in response to applications for development of land and construction of buildings within the vicinity of a Transit Stations and Corridors.
- Development Authorities/AP Housing Board/APIIC and other para-statal agencies in formulation of TOD Layout Plans/Town Development Schemes/Affordable Housing Schemes/Industrial Development Schemes within the vicinity of a Transit Stations and Corridors.
- Developers and Land owners in formulating their applications for development of land and construction of buildings within the vicinity of a Transit Stations and Corridors.
- Registered Architects, Urban Planners and Engineers in providing consultancy to Developers and Land owners in formulating their applications for development of land and construction of buildings within the vicinity of a Transit Stations and Corridors.

This TOD Policy is intended for Transit Oriented Development of TOD Area (Transit Station and Corridor Area) and Transition Area planning modalities, both in respect of new Transit Stations and Corridors as well as redevelopment plans that may be prepared for existing Stations, Corridors and Neighbouring communities. Such TOD Area (Transit Station and Corridor Area) and Transition Area shall be identified in the Development Plans (DPs) and demarcated in the Zonal Plans/TOD Area Zonal Plans. Where DPs, Zonal Plans and Urban Development regulations are in place, this document will provide basis for the revision/amendments of these existing Statutory Plans and documents. And all future DPs, Zonal Plans and urban development regulations and other documents shall be formulated on the basis of this document.

4 Transit Oriented Development

Transit Oriented Development (TOD) is defined as compact, pedestrian and Non Motarised Vehicle(NMV) friendly development of transit supportive uses having moderate to high density residential, offices and retail uses within walk-able distance from public transport. TOD is mixed-use, mixed-income residential and/or commercial area designed to maximize access to public transport, and incorporates features to encourage transit ridership such as pedestrian and NMV oriented design, multi-modal integration and connectivity. TOD is widely considered as one of the most sustainable form of development and is being practiced in many part of the world. It reduces the dominance of private motorized vehicle usage and promotes development which is more conducive to transit usage. TOD encourages residents, workers and shoppers to use Mass Transit and reduces their dependency on private motorized vehicles by compact, mixed-use and pedestrian friendly development around Transit Station and along Transit Corridor.

4.1 Vision

Smart and livable growth in urban areas by making public transport a preferred mode of transport through high density, mixed-use development. To ensure pedestrian safety, comfort and convenience.

4.2 Objectives

Transit Oriented Development Policy has been developed on following key Policy Objectives that apply to Transit Station and Corridor Areas:

1. Ensure Transit supportive uses

Ensuring land uses around Transit Stations and Corridors such that they support ridership by generating high levels of transit use and provide a mixed-use activity node for the local community and city-wide transportation network benefits. This provides the local community with increased services, employment, and housing options within their community area.

2. Densification and Mixed income development around Transit Stations and Corridors

Densification will promote; high frequency rapid transit service and also provide a base for a variety of housing, employment, local services and amenities that support a vibrant Station and Corridor area community. Mixed income development will include; diverse types of housing units for people with various income levels. It should also include a range of affordable housing options for lower income residents and incorporate diverse commercial developments complementing various income levels.

3. Ensure connectivity and manage vehicular traffic and parking

Ensure connectivity through comprehensive transportation network planning in the city with special focus on Mass Transit Corridors. Accommodate transit services and private motorized vehicle circulation and parking needs, while creating a comfortable pedestrian environment with proper integration of various mode transfer options.

4. Create Pedestrian and NMV-oriented design

Create convenient, comfortable, pedestrian and Non Motorized Vehicles (NMV) linkages to and from all Transit Stations/Corridors in order to support a walk-able Transit Station/Corridor Area and promote the use of transit.

5. Make each Transit Station/Corridor Area "a Place"

Each Transit Station/Corridor Area shall be developed as a unique environment, transforming a functional transit node into a community gateway and a vibrant mixeduse hub of activities. Create safe, usable shared public spaces through design and make existing parks accessible.

6. Plan in context with local communities

Through consultation with local communities, TOD shall provide a wide range of supporting benefits for local communities, including increased uses and services, a variety of housing, increased transportation options, increased community amenities and a more walk-able environment.

7. Promote use of Public Transport and reduction in Private vehicles

Promoting the use of public transport by developing high density zones in the TOD Area and Transition Area as applicable, which would increase the share of transit and walk trips made by the residents/ workers to meet the daily needs and also result in reduction in private vehicle ownership, traffic and associated parking demand, pollution and congestion in the TOD Area and Transition Area as applicable.

8. Densification of Road Network

Establish a dense road network within the development area for safe and easy movement and connectivity of NMV and pedestrians between various uses as well as to transit stations.

9. Developing safe society

Ensure development of safe society with special attention to safety of women, children, senior citizen and differently abled by making necessary amendments to the building bye laws such as abolishing provisions of boundary walls, provisions of active frontage on the road, public use of marginal open space in the form of walkable streets etc.

10. Controlling urban sprawl

Prevent urban sprawl by accommodating the growing population in a compact area with access to the transit corridor, which would also consolidate investments and bring down the infrastructure cost for development.

11. Eco friendly and livable city

Reduce carbon footprints by shifting towards environment friendly travel options for the line haul as well as for access and egress trips and by provisions of open spaces, play grounds and green belts.

4.3 Benefits

TOD shall provide the following benefits to Cities:

i. **Mobility Options for all** - Change the paradigm of mobility by enabling a shift from use of private vehicles towards the use of public transport and alternative modes.

ii. **Better Quality of Life for All** - Provide a variety of high-density, mixed-use, mixed-income housing, employment and recreation options within walking/cycling distance of each other and Mass Transit Station– in order to induce a lifestyle change towards healthier living and better quality of life. Integrate communities rather than segregating them and reduce social stigma and dissent.

iii. **Housing For All** - Increase the supply of housing stock for all kind of Income group including range of affordable housing and commercial space in the city which would bring down prices and make living and working in cities more affordable.

iv. **Market Participates in Better City** - Open up development opportunity to the private sector to bring in investment into the city's growth and revenue and also help cross-subsidize social amenities, affordable housing and public transport, using a variety of possible development models. Low-income groups can be provided space and shared amenities in integrated mixed-income communities, thereby reducing further proliferation of gentrified slums and unauthorized colonies.

v. **Self-Sufficiency** - Creating high densities would make decentralized infrastructure provision and management techniques more feasible, thus making it more economical to recycle water/sewage locally to meet community needs.

vi. **Cheaper Public Transport** - Provide a significant source of non-fare box revenue for a public transport fund, which may help reduce ticket prices and increase provision of public transport facilities.

vii. **Reduce Environmental Degradation** - Set a clear vision for the growth and redevelopment of the city in a compact manner, by minimizing sprawl (low density spread out development). Help save environmentally sensitive lands and virgin lands through high-density compact development.

viii. **Save Public Money** - Provide savings in public money through reduction of investments in physical infrastructure like additional road expansion, piping/cabling costs, time-cost of traffic congestion and other larges costs associated with low-density sprawl.

ix. **Multi-disciplinary Integrated Approach** - Provide a shift to a more holistic paradigm of planning where all sectors– mobility, planning policy, urban design, infrastructure and economics work together in unified manner– to deliver integrated development.

Benefits to Transit Agencies:

x. Increased ridership due to larger population living/working within walking distance.

xi. Value Capture of increased land values for long term cross-subsidy & maintenance of public transportation.

Benefits to Land, Road & Service Owning Agencies:

xii. Potentially increased revenue from land due to increased development with lesser public money investment.

xiii. City level reduced infrastructure costs (reduced length of roads, pipes, cables, tunnels, etc.) due to accommodating the overall planned population within lesser net land area, in a more sustainable way.

xiv. Increased feasibility for sustainable decentralized physical infrastructure.

xv. Increased and more efficient use shared social infrastructure facilities.

5 Transit Oriented Development (TOD) Areas and Transition Area

5.1 Definitions

5.1.1 TOD Area

Mass Transit Station: - All the existing and proposed Mass Transit Stations in the Mass Rapid Transit System (MRTS) Corridor/Network which has been approved by competent authority for development and operations. (referred to as "Transit Station")

Mass Transit Corridor: - All the existing and proposed public transport routes like Metro Rail/Light Rail/Mono Rail Corridor/Network and Bus Rapid Transit (BRT) or High capacity Public Transport* Corridor/Routes/Network, which has been approved by competent authority for development and operations. (referred to as "Transit Corridor").

TOD Area (Transit Station/Corridor Area): - Area within the 500m wide belt (5-10 Minute Walk) on both sides of centre line of Metro Rail/Light Rail/Mono Rail, Mass Transit Corridor and Area within a 300m wide belt on both sides of centre line of High capacity Public Transport*, Mass Transit Corridor or centre line of it's Right of Way (ROW). Such width of the belt on both sides from the centre line of Metro Rail/Light Rail/Mono Rail, High capacity Public Transport and Mass Transit Corridor may be increased or decreased by GoAP.

Note: *To be able to consider High capacity Public Transport Corridor/Route/Network as Mass Transit Corridor in the purview of TOD Areas such High capacity Public Transport Corridor/Route/Network shall be designed with a carrying capacity of more than 5000 passengers per hour per direction.

5.1.2 Transition Area

Transition Area : - Area within the 1000 meter wide belt on both sides of centre line of Metro Rail/Light Rail/Mono Rail Corridor/Network and Bus Rapid Transit (BRT) or High capacity Public Transport* Corridor/Routes/Network which has been approved by the competent authority for future transportation/TOD based planning. Such Transition Area may be increased or decreased by GoAP based on the requirements of projects.

5.2 Demarcation of TOD Areas/Transition Areas

The demarcation of TOD/Transition Areas and zones pertaining to these areas will be done in the TOD Area Zonal Plans under the provisions of the DPs prepared for any specific Transit Station/Corridor Area (TOD Area). Such TOD Area Zonal Plans shall be prepared by Mass Transit Agency. Amravathi Metro Rail Co Limited (AMRCL)/Mass Transit Agency may seek support of Municipal Corporation/Councils and technical support from urban planning and development experts in the preparation of TOD Area Zonal Plans, Layout/TD scheme and identification and implementation of projects. The actual demarcation of the TOD/Transition Areas and zones pertaining to these areas may be done on area within/beyond the

TOD/Transition Areas defined in the **Clause 5.1,** where the land outside the specified distance share specific Transit Station/Corridor Area characteristics and is not physically separated from the Transit Station/Corridor Area or may have direct pedestrian connectivity in the designated time as per **Clause 5.1**, and could accommodate transit-supportive land uses or as per requirement and sustainability of TOD, Zonal Plan and planned development in the city. Similarly such actual demarcation of TOD Areas may exclude existing stable residential communities or other use zones around Transit Stations/Corridors, which don't share specific Transit Station/Corridor Area characteristics and are separated by physical barriers that prevent pedestrian access to a Transit Station/Corridor in the designated time as per **Clause 5.1.**

6 Approaches to Realize the Policy Objective

One of the purposes of this document is to set out strategies to realize policy objectives for Transit Oriented Development. These Strategies reflect the GoAP's strategic policy, with specific reference to development around Transit Stations and Corridors.

6.1 Transit-supportive Uses

1. Transit- supportive uses Transit-supportive land/building uses encourage transit use and increased transportation network efficiency. The pattern of land/building use around transit stations and corridors shall be characterized by:

- Higher Employment Densities and/or Residential Densities
- Promoting Travel Time other than Peak Periods
- Attracting reverse-flow travel on Roads and Transit Stations
- Encouraging extended hours of Activity, throughout the day and week
- Attracting Pedestrian Users and Generates Pedestrian Traffic

2. Mix of Uses

A TOD Area shall allow for a mix of residential, commercial, employment, public semipublic, supporting retail, entertainment and service uses. The mix of uses shall be vertically and/or horizontally; that is, the mix of uses shall be found within a particular building, or incorporated in multiple buildings throughout the TOD Area. This provides a variety of uses within a compact, walk-able TOD Area and creates a synergy between the varying types of development.

3. Limit non-transit supportive uses

As the focus of TOD is on the transit rider and pedestrians, it is important that private motorized vehicle oriented development does not overwhelm the TOD Area. Non-transit supportive land/building uses are those which are oriented primarily to the private motorized vehicles and not the pedestrian or transit user. These types of uses

- Generate high levels of private motorized vehicle activity
- Creates area oriented towards private motorized vehicle use
- Consume a large amount of land through low-density urban form
- Require extensive surface parking areas

- Create negative impacts for pedestrians such as isolation from building frontages, long and tedious walks, and numerous vehicle crossings on footpaths, and/or typically does not attract extended hours of activity.

Non-transit supportive uses shall not be located in the immediate vicinity of Transit Stations/Corridors, where there is high pedestrian activity and bus traffic. These uses shall be considered to be located outside the TOD Area or towards the edge of a TOD area where higher intensity uses may not be feasible, or shall be considered as part of a larger comprehensive transit-supportive development.

6.2 Densification and Mixed Income Development around Transit Stations/Corridors

1. Densification

a. Optimize Density around Each Transit Stations/Corridors

- Density shall be increased in and around Transit Stations/Corridors, considering the surrounding context and particular Transit Station/Corridor type. High density shall be placed in locations with the best access to transit and the local public systems.
- Locate the highest density uses and building forms (e.g. apartments, office towers etc.) as close as possible to the Transit Stations/Corridors.

b. Minimize the Impacts of Density

- The highest densities in a TOD Area shall occur on sites immediately adjacent to the Transit Station/Corridor. In addition, minimum density norms may be established on parcels adjacent to the Transit Stations/Corridors to ensure that the desired intensity of development is achieved.
- Create transition between higher and lower intensity development by stepping down building heights and densities with distance from the Transit Stations/Corridors.
- Use transit facilities, public spaces and roadways as organizing elements for placement of density, height and shadow.
- Create proper edge treatments such as compatible building scale, parking location, and landscaping between new developments and existing communities to ensure integration and minimize impacts of development.

2. Mixed income development

Mixed income development shall include diverse types of housing units for people with various income levels. It shall also include a range of affordable housing options for lower income residents. It will also incorporate diverse commercial developments complementing various income levels. The mixed income developments have a positive impact on the density of the development due to

- Lower income and economically weaker section housing have smaller dwelling units sizes.
- Informal sector and other such commercial establishments have high employment density. Mixed income development will be inclusive and high density development which will have positive impact on ridership along the Transit Corridors.

6.3 Ensure connectivity and Manage Vehicular Traffic & Parking

Comprehensive transportation network planning shall be done in the DPs and Zonal Plans to ensure connectivity in urban areas. TOD area proposals shall accommodate transit services, private motorized vehicle circulation and parking needs, while creating a comfortable pedestrian environment.

1. **Connectivity The transportation proposals under the DPs and Zonal Plans shall be prepared/revised as below: -**
    - Create dense networks of streets and paths for all modes of transport.
    - Disperse high traffic volumes over multiple parallel streets rather than concentrating traffic on fewer major arterial roads.
    - Create fine networks of streets that provide choice of routes, for all modes of transport, while reducing distances between places. The development proposals/Layout Plan/TD Scheme etc. in the TOD Area shall provide shortest direct route for pedestrians and NMV modes up to Transit Stations/Corridors as well as between individual buildings/complexes.
2. **Multi-modal integration**

Public transport operations planning shall be carried out to ensure multi-modal integration. Some of the key considerations in such planning are: -

- Provide fast and convenient interchange options for various modes of transport with a priority to public transport including intermediate public transport, pedestrians and NMV.
- Mass transportation options such as Metro/Light/Mono Rail, BRT, High capacity Public Transport services and other modes of Public Transport shall be integrated with each other as well as with pedestrian and NMV networks, so that time spent in mode transfers is reduced.
- Multi-modal integration shall minimize travel time and cost for majority of commuters along with provision of safe, affordable and multiple transit mode options in developed areas as well as along growth corridors. Such mode choices for last-mile connectivity shall be provided based on various prices and comfort levels.
- Major transit interchanges shall be planned as Multi-modal Transit Hubs integrating various modes of transport, while providing seamless interchange between all modes.
- Multi-modal integration shall not be just the physical integration but also involve other integration elements relevant to public transport such as fare, communication, passenger information etc.

The development proposals/Layout Plan/TD Scheme etc. in the TOD Area shall: -

- Prioritize pedestrians, public transport, NMV modes over private motorized modes in design, management and planning of public spaces.
- Integrated public systems are essentially to ensure a fully integrated TOD area. Elements of the public systems shall include primary and secondary pedestrian routes, bicycle routes, road ROWs, pedestrian/cycle overpasses and underpasses, public open spaces, public toilets, transit stations and bus stops.

3. Parking

a. Reduced parking requirements

TOD, through the transit-supportive uses, increased density and pedestrian oriented designs provides sustainable mobility options, increasing transit ridership and reducing private motorized vehicle trips. As TOD has potential for decreased vehicle ownership, so reduction of parking requirements should be strongly considered in TOD Areas. Rationalization of parking norms shall be done for TOD Areas considering following Strategies.

- Appropriately limiting and differential pricing of private motorized vehicle parking to discourage private motorized vehicle use in the TOD Areas.
- Public parking supply (be it on-street or off street) as well as ECS requirements for private motorized vehicles shall be restricted in immediate vicinity of transit stations/corridors and such parking provision shall be based on location/distance from transit stations/corridors.
- Higher and Differential parking prices in TOD Area shall be considered as part of a parking management strategy. The prices shall vary as per following order:-
    - On-Street (within ROW) - Highest
    - Off-Street at Grade
    - Off-Street Multi Level - Lowest

  Similarly the parking charges shall increase with proximity to the Transit Station/Corridor.
- Parking for transit buses, IPT modes and NMV shall be prioritized to be onstreet and/or at-grade in the immediate vicinity of Transit Station/Corridor.
- Mandatory share of parking for NMV, transit buses, IPT modes and 2-wheelers shall be part of ECS requirements for any development in the TOD Areas.
- On-street parking shall be limited to be short term and highly priced in the TOD Areas.
- Off street public parking shall be discouraged in the immediate vicinity of the transit stations/corridors, it shall be restricted to the edge of the TOD Areas.
- Park and ride facilities for private motorized vehicles may only be provided in the transit station premises, whereas such facility for NMV may be provided onstreet or off-street within the TOD Areas as well as within transit station premises.
- Park and ride facilities should be encouraged in the Terminal Stations and Multi-modal Transit Hubs.
- All the parking supplies (be it on-street, off-street or on-site) shall be shared parking spaces in the TOD Areas. Such supplies may be developed by the public agencies or private developers/land owners/traders associations etc.

b. Parking placement and parking form complementing the pedestrian nature of the TOD area Parking spaces shall be designed appropriately in order to maintain pedestrian comfort in the TOD Area.

- Public off-street parking spaces and on-site parking spaces should be accessed from lowest hierarchy road abutting any development in the TOD Areas, without impacting existing communities or the pedestrian environment of the area. Direct and convenient pedestrian connections shall lead from these parking areas to primary destinations such as the transit station, major office areas, high-density residential, etc.

- On-site, at grade parking in the TOD Area should be discouraged and if provided shall be located on the rear side of the building and shall not face main ROW. On-site, multi-level parking access ramps should not be provided directly on main ROW.
- All parking spaces shall be designed and located to minimize the number of vehicle crossings over primary pedestrian routes. At such crossings all driveways/vehicular entries shall be raised to finished footpath and cycle track level.
- All the surface parking shall be broken into smaller cells through landscaping and walkways and shall accommodate safe, direct pedestrian traffic through the provision of landscaped walkways to and from, as well as through the site.
- Use of public open spaces, parks, footpaths, cycle tracks and other spaces in the road ROW as parking (unless designated as on-street parking) shall be strictly prohibited in the TOD Areas.

4. Encourage employer based transportation demand management (TDM) strategies Employer based TDM strategies may assist in reducing private motorized vehicle use, enhancing transit ridership as well as reducing the need for parking in the TOD Areas. Such strategies are

- Encouraging local shuttle service for employment centers or shopping centers to connect to Transit Stations and Major Interchanges.
- Facilitating community car-sharing and car-pooling by providing preferential parking spots for car-share/car-pool vehicles
- Promoting TDM initiatives such as flex-time hours, telework, bike/walk to work programs, etc.
- Work with employers (such as government offices, private offices, business groups etc) to encourage transit ridership programs among employees by providing them with universal transit passes/subsidized fares valid on all mode of transit as part of remuneration package.

6.4 Pedestrian and NMV-Oriented Design

Pedestrian and Non Motorized Vehicle (NMV) friendly environment is most essential and fundamental requirements of TOD. To materialize high investments in the public transport system pedestrian and NMV access to the public transport shall be given high priority.

1. Pedestrian & NMV connectivity

• Direct connectivity for pedestrians and NMV up to the Transit Station/Corridor shall be ensured in every development proposals in the TOD Areas.

• TOD Areas, development proposals shall incorporate identification of primary and secondary pedestrian routes.

- **Primary Pedestrian Routes** – These routes run directly between the Transit Station Platforms/Transit Corridor Bus Stops and major pedestrian destinations in the TOD Area. Primary routes would include wider sidewalks and Station/Corridor access foot over bridges/under passes, Skywalks etc.
- **Secondary Pedestrian Routes** – These routes do not provide a direct link to the Transit Station/Corridor but feed into the primary routes. These

routes would include standard sidewalks and private accesses/links to/between individual buildings.

• The Pedestrian connectivity shall be ensured with all the elements of the public system mentioned in the Clause 6.3 (2) above, which will create pedestrian comfort within the TOD Area.

2. Pedestrian and NMV-oriented design

Significant number of trips in our cities such as education, local shopping, leisure trips within neighbourhoods and local job centers are short trips, less than 3 Kms. Good walking and cycling environment encourages users to walk and use bicycles longer to have access to public transport and cater for short trips. Use of cycling and walking for such trips, reduces overall cost of travel and also reduces dependency on motorized transport.

- A convenient, comfortable and safe pedestrian or NMV route shall have the following qualities like short, continuous, barrier-free, easily navigable and designed for local climate.
- Primary pedestrian routes shall incorporate climate and weather protection elements. These elements can include covered waiting areas, building projections and colonnades, covered walkways or over passes/under passes up to Transit Station/Bus Stops, use of landscaping etc. These design elements will make waiting and getting to and from Transit Station/Bus Stops more comfortable.
- NMV routes and bicycle routes shall be located close to, but physically separated from a Transit Station/Corridor vehicle drop-off zones or bus stops to avoid potential conflicts with cyclists and transit passengers. This will allow for through traffic by cyclists and NMV route users, with local linkages connecting directly to the transit station, NMV parking and bicycle parking.
- TOD Area, development proposals shall provide adequate amenities for pedestrians, cyclist, NMT and public transport users
- Buildings shall be grouped together to allow for easy pedestrian access between buildings at grade or above at intermediate floor level and to frame the pedestrian spaces, for easily walkable routes.
- Buildings along these routes shall be oriented to the street and shall have minimal road side marginal open space (MOS), direct building entrances oriented and connected from the sidewalk. In case of arcade no road side MOS shall be provisioned.
- All the road and street infrastructure proposals and designs shall be mandatorily approved by MPMRCL/Mass Transit Agency under the provisions of DPs, even if the implementing agency is government agency.

3. Safety and Security

- TOD Area, development proposals shall create street level activities, like hawking zones, ground floor retail etc. to encourage walkability, increase street level activity and provide safety.
- The ground floor of building in the TOD Areas shall contain uses that are appealing to pedestrians, such as retail, personal service, restaurants, outdoor cafes, and residences.

- All the streets in the TOD Areas shall have sidewalks on both sides of the road that can accommodate high-volume pedestrian activity and their layout shall be oriented towards the Transit Station/Corridor.
- Wherever possible, street and building configuration shall be designed to create vistas, or to terminate views with a landmark feature, building, or public space

b. Building Design Details

Buildings in the TOD Area shall be designed to ensure that pedestrian comfort is of prime importance.

- Doorways and windows shall be oriented towards the street in order provide ease of entrance, visual interest and increased security through informal viewing.
- Variety of architectural features shall be used on the lower storey of a building in TOD Areas in order to provide visual interest to the pedestrian.
- Buildings higher than 4-5 storey shall step back higher floors in order to maintain a human scale along the sidewalk and reduce shadow impacts on the public street.

6.6 Plan in Context with Local Communities

1. Community participation Local communities can provide valuable local knowledge on services and amenities needed by the community, housing forms, key pedestrian destinations, current pedestrian habits, parking management etc.

- It is essential to consult with local communities early in the planning process (be it DPs, Zonal Plans or Public Agency/Private Developer initiated TOD Layouts Planning) to ensure a common understanding of important community issues related to a particular site or area.
- Local land owners and communities should participate in TOD Area plan planning process.

2. Needs of the community

- New development in TOD Areas should provide services and amenities needed by local communities. These could include new housing forms to support community demographics, employment options, convenience retail and personal services, public gathering spaces, etc
- Any development in the TOD Area shall complement the existing development and help to enhance the local character while creating a walkable and vibrant TOD Area.

7 Key Action Areas

7.1 Land

The Planning, Development and Regulatory Agencies shall devise efficient land acquisition models such land sharing, land pooling, land amalgamation, plot reconstitution and other alternatives for provision of housing, employment and other urban services in TOD Areas.

The Planning, Development and Regulatory Agencies shall earmark a certain portion of land at affordable rates for housing for EWS/LIG based on the TOD Rules and Regulations.

- All the developments in the TOD Areas shall discourage boundary walls to create eyes on the street.

6.5 Make each Transit Station/Corridor Area a "Place"

Each Transit Station/Corridor area shall be developed as a unique environment, transforming a utilitarian transit node into a community gateway and a vibrant mixeduse hub of activities.

1. Activities & Uses

a. Encourage "Round the Clock Activity"

- The development proposals in the TOD Area shall create a safe, vibrant, comfortable urban "place", by encouraging round-the clock active streets and incidental places to relax.
- All streets, public open spaces, parks, parking and other elements of public system as per Clause 6.3 (2) above in the TOD Area shall be universally accessible with special focus on needs of differently-abled citizens.

b. Create "Eyes on the Street"

- The development proposals in the TOD Area shall create "eyes on the street" by removing boundary walls or compounds and building to the edge of the street ROW and by having uniform building line. This would discourage misbehavior, shady corners, urinating in public places, etc.
- Mixed use without boundary walls, built-to-edge buildings with minimum/no road side marginal open space (MOS) and non-opaque fences along with other informal on-street activities like hawker's zone in the TOD Area, shall help provide natural surveillance of public spaces.
- Arcades and colonnades along such built-to-edge mixed use buildings should be encouraged

c. Creative Use of Public Open Space

- Public open space shall be developed to complement TOD Area development. This would emphasize the Station/Corridor as a public place, while providing a comfortable and interesting waiting/drop-off area, and giving the community a gathering place.
- The development proposals in the TOD Area shall create climate-sensitive streets and public open spaces through adequate street tree planting, building edge treatments to facilitate shading of public realm, orientation of open spaces, etc.

2. Emphasize Important Buildings

- Public or high profile buildings (i.e. stations, large commercial, prominent residential buildings) shall be visible landmarks within the TOD Area. These buildings shall have distinctive design features (facade, rooflines etc) that can be easily identified.

3. Design & Aesthetics

a. Street and Block Layout

- While designing the TOD Area development proposals, new streets and walkways shall be incorporated into the existing local road pattern.

Considering land as a scarce resource there is need for regulating use of urban land in TOD Areas up to optimum levels; penalizing under utilization and incentivizing optimum utilization within a specific time period.

The TOD Areas shall be notified as TDR Receiving Areas and Influence Areas in the purview of TDR Rules and Regulations. Separate TDR regulations shall be formulated by competent authorities and TDR policy should have relevant provisions.

7.2 Finance

The TOD Layouts on government land shall be prepared so as to mobilize finances for strengthening/extension of transit services and capital expenses thereof by way of using land as a resource. The financial model for such projects shall ensure delivery mechanism for public infrastructure, public transport facilities as well as affordable housing in such projects.

The TOD areas shall encourage unlocking land value and attract private investments in infrastructure development and service delivery through land value capture finance mechanisms including but not limited to FAR benefits, land value tax, fees for changing land use, Betterment levy, Development charges (Impact fees), Transfer of Development Rights (TDRs), Vacant Land Tax, Tax Increment Financing, Land Acquisition and Development , Land Pooling System or any other possible benefit that the regulatory authorities can give.

Income generated through aforesaid financing mechanism shall be accrued to the Dedicated Urban Transport Fund (DUTF). These revenue streams shall be identified based on the benefits enjoyed by a piece of land lying within the TOD Area.

7.3 Infrastructure

The urban service delivery agencies such as Municipal Corporation/Municipalities/ Municipal Council or Mass Transit Agency etc. shall ensure:-

- Strengthening of trunk infrastructure in brown field TOD Areas so as to effect desired mixed use and density levels.
- Integrated infrastructure and services system Plans for green field TOD Areas indicating space requirements for all urban services based on desired mixed use and density levels.
- The infrastructure provisions in the TOD Area development proposals shall as far as possible ensure decentralized infrastructure, so that impact on existing Trunk Infrastructure is minimized as well as long term sustainability and resource efficiency is achieved.

Such strengthening of trunk infrastructure proposals and integrated infrastructure and services system plans shall be prepared and implemented based on the DP proposals and TOD Area Zonal Plans.

- The TOD Rules and Regulations shall ensure
- Sustainable water, energy, waste water, storm water and solid waste management and communication systems in the development proposal in/along Transit Station/Corridor areas.
- Rain water harvesting, to be integrated with the landscape and public open space strategy.

8 Role & Responsibilities of various Agencies

1. **Department of Municipal Administration and Urban Development**
   - Formulation of TOD Policy
   - Amendments in APMRUDA Act, 2016 and AP Building Rules 2017 and AP (Land Development) Layout Rules, 2017 and there under.
   - Prepare/revise various Development Plans incorporating separate chapter for TOD, enabling provisions and amendments for implementation of TOD, zoning regulations, development controls and subdivision/amalgamation regulations for various uses/activities, building bylaws for various uses/activities and design guidelines for TOD Areas.
2. **Directorate of Town and Country Planning**
   - Amendments in APMRUDA Act, 2016 and AP Building Rules 2017 and AP (Land Development) Layout Rules, 2017 and there under in consultation with AMRCL/Mass Transit Agency.
   - Prepare/revise various Development Plans incorporating separate chapter for TOD, enabling provisions and amendments for implementation of TOD, Transit Oriented Development zoning regulations, development controls and subdivision regulations for various uses/activities, building bylaws for various uses/activities and design guidelines for TOD Areas in coordination with AMRCL/Mass Transit Agency.
   - Promote, Control and Regulate the Developments in the TOD Areas in coordination with MPMRCL/Mass Transit Agency.
3. **Development Authorities, AP Housing Board, MPMRCL, Mass Transit Agency and other Para-statal Agencies**
   - Preparation and implementation of TOD Area Zonal Plans, TOD Layout Plan/TD Schemes/TP Schemes/Redevelopment Schemes etc. in TOD Areas in sole capacity or in partnership with land owners/developers as applicable.
   - Preparation and implementation of proposals for strengthening of trunk infrastructure and integrated infrastructure and services systems plan for infrastructure components in TOD Areas based on the TOD Area Zonal Plan as per their respective jurisdiction
4. **Municipal Corporation/Municipality/Municipal Council/Nagar Panchayats not falling in UDA limits.**
   - Preparation/revision of Zonal Plan by incorporating TOD Areas and subsequent zoning regulations.
   - Preparation and Implementation of TOD Area Zonal Plans for TOD Areas through Mass Transit Agency.
   - Promote, Control and Regulate the building construction activities in the TOD Areas.
   - Preparation and implementation of proposals for strengthening of trunk infrastructure and integrated infrastructure and services systems plan for infrastructure components in TOD Areas based on the TOD Area Zonal Plan.
5. **Amaravathi Metro Rail Co Limited (AMRCL)/Mass Transit Agency (Metro Rail/Light Rail/Mono Rail/BRT/High capacity public transport services)**
   - Preparation and implementation of TOD area zonal plan with the assistance of Municipal Corporation/Municipality.
   - Approval of layout plan in TOD area.

- Planning, enforcement and regulating urban transport including public transport (Metro Rail/Light Rail/Mono Rail/BRT/High capacity public transport services), IPT, parking, pedestrian & non-motorized transport facilities and private motor vehicles.
- Promote, Control and regulate the building construction activities in the TOD Areas.
- Preparation and implementation of integrated Multi-modal Public Transport operations service plan.
- Ensuring and managing Multi-modal integration of PT Services through integrated service planning.
- Regulate roads, street and building construction/development in TOD Areas and ensure that Codes applicable for Urban Roads and Building are being complied during such construction/development.
- Preparation and implementation of TD scheme/TP scheme and approval of layouts prepared under aforesaid schemes in TOD Areas in sole capacity or in partnership with landowners/developers.
- Administration and management of Dedicated Urban Transport Fund (DUTF)

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